

R. A. McCAULEY.
Sewage-Apparatus.

No. 163,095.

Patented May 11, 1875.

FIG. I.

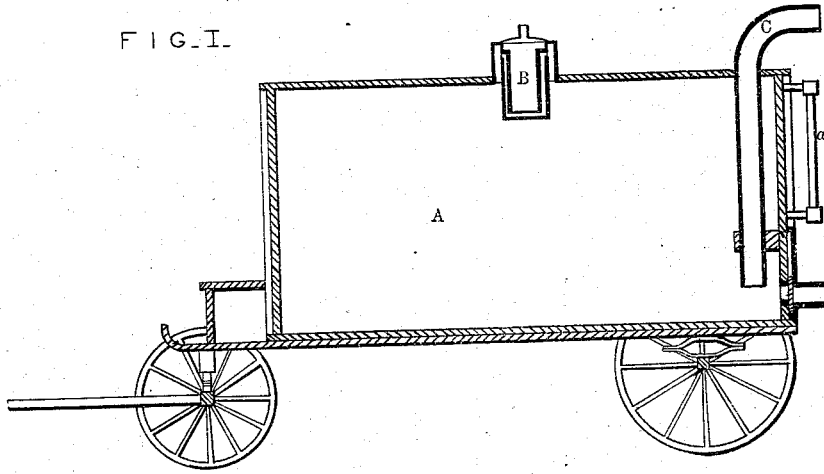


FIG. II.

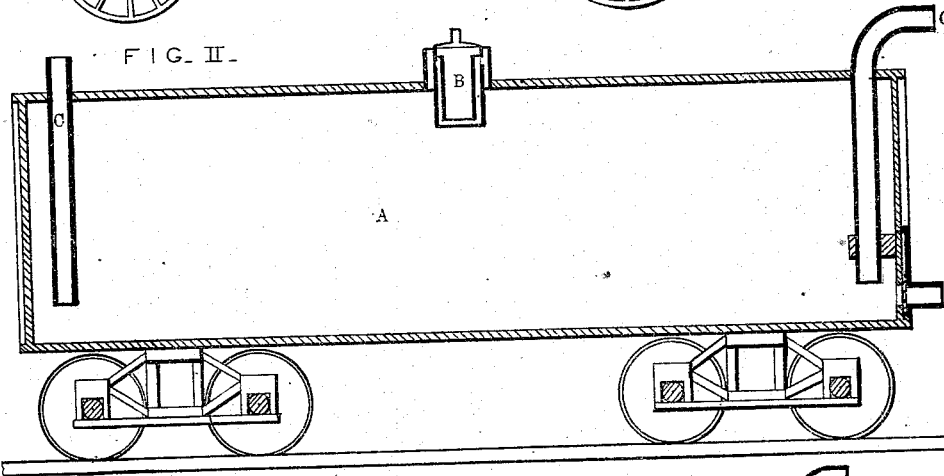
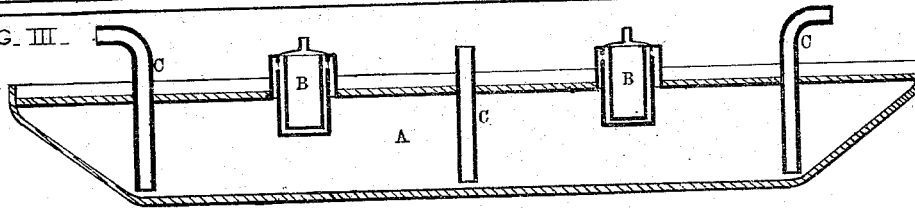


FIG. III.



WITNESSES

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INVENTOR

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 by *E. H. M. Howard*
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FIG. IV

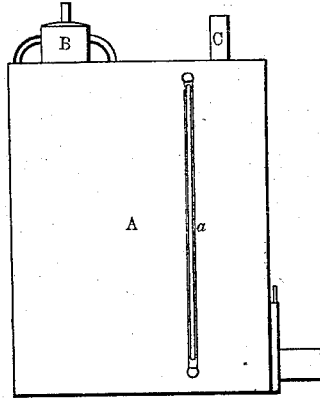


FIG. V

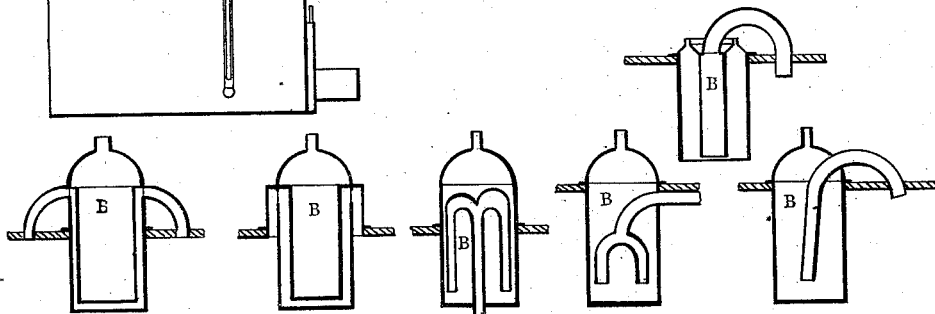
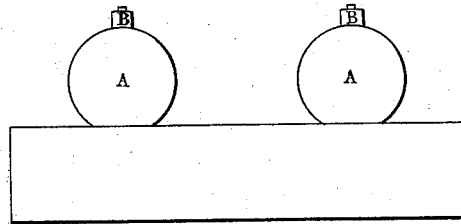
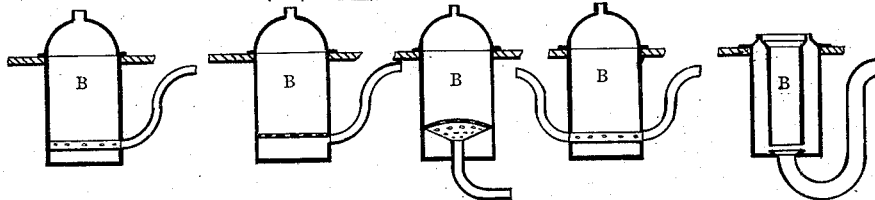


FIG. VI



WITNESSES

Edwin Howard

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UNITED STATES PATENT OFFICE.

REUBEN A. McCAULEY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN SEWAGE APPARATUS.

Specification forming part of Letters Patent No. 163,095, dated May 11, 1875; application filed March 30, 1875.

To all whom it may concern:

Be it known that I, REUBEN A. McCAULEY, of the city of Baltimore, and State of Maryland, have invented certain new and useful Improvements in Sewage-Tanks and their Attachments, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention relates, first, to a safety chemical deodorizer, to be applied to closed carts, stationary or movable tanks, or floating vessels, constructed to convey offensive matter from sinks, cess-pools, and the like, and adapted to allow the escape of the gases arising from said offensive matter in an inoffensive and innocuous condition, and to prevent the formation of a pressure of gas in the said tanks greater than that necessary to displace the deodorizing liquid or substance in the said deodorizer in its passage to the outer air. My invention relates, secondly, to a stand-pipe designed to convey the matter discharged to the tank to a point near to the bottom thereof, for the purpose of allaying the agitation consequent upon the introduction of such matter by means of a pump or other device from a tank or cart, and for other purposes hereinafter described.

In the further description of my invention which follows, due reference must be had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a sectional view of a tank in which is incorporated my improvements, mounted upon wheels, and suitably arranged for ordinary road use. Fig. 2 represents my improvements attached to a tank fitted for railroad transportation. Fig. 3 is a sectional view of a scow fitted with the said improvements, and constructed with a view to transporting offensive refuse matter in bulk by water to suitable depositing stations. Fig. 4 shows my invention as applied to a stationary receptacle for sewage matter, and Fig. 5 as the same in connection with tanks secured to a scow. Fig. 6 illustrates various modifications in a part of the invention.

Similar letters of reference indicate similar parts in all the figures.

A A represent the tanks. B B are the deodorizers, which, in all cases, are arranged in such manner as to admit of the washing of the gases arising from the matter contained in the tanks, by the introduction of the said gases to the said deodorizers at a point below the surface of the deodorizing liquid or substance exposed to the outer air. The deodorizers are secured to the tanks, and the gases admitted thereto by pipes or apertures. The deodorizer may, however, be connected to the tank by a pipe, or be used in connection with two or more tanks, being united thereto by means of rigid or flexible pipes.

By the terms "chemical deodorizer," used herein, a distinction is intended to be drawn between a deodorizer in which the offensive gases are and are not consumed by fire; a deodorizer of the latter description being unsafe in the event of a temporary partial vacuum in the receiving-tank, arising from any unforeseen cause, allowing the flame to be conveyed to the interior of the tank, and into contact with the gases, in which case an explosion is liable to occur.

The deodorizing compound preferably used is sulphate of iron and water, as this mixture is found to combine with the injurious and offensive constituents of the gas arising from sewage matter, and render the same perfectly harmless; but instead of this compound, chloride of lime, carbolic acid, or any of the well-known disinfecting and deodorizing agents, may be employed, if desired. The advantage of forming a chemical combination of the injurious constituents of the gas with the agents above alluded to, in the deodorizing of tanks, &c., over the method commonly employed—viz., the use of burning charcoal or coke—will be apparent when the danger of explosion from the use of the latter expedient is taken into consideration.

C C are stand-pipes, arranged either exteriorly or interiorly of the tanks, and at their upper ends provided with coupling devices, by means of which the hose leading from a tank or pump may be attached. In cases where the stand-pipe is secured to the outside of the tank, the lower end can be sup-

plied with a branch communicating directly with the interior of the tank for emptying purposes. When in filling the tanks the matter rises to the height of the lower end of the stand-pipe, the said pipe becomes sealed, and the issue of gases from the tank upon the disconnection of the hose from the same prevented. The tanks are provided with gages *a*, similar to those used upon steam-boilers, to indicate the depth and quantity of the matter therein.

I do not claim a vacuum-tank connected with an air-pump and chemical deodorizer; but,

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The deodorizer and safety-valve B, combined and connected with and operating by direct pressure from the ventilating-tank or sewage-receptacle A, substantially as and for the purpose specified.

2. The combination of the ventilating sewage-receptacle A, deodorizer and safety-valve B, and stand-pipe C, substantially as and for the purpose specified.

In testimony whereof I have hereunto subscribed my name this 23d day of March, in the year of our Lord 1875.

REUBEN A. McCAULEY.

Witnesses:

WM. H. WIEGEL,
WM. H. ROBERTS.